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Lab 11

2.)
A:

```
1   #2
2   #a All inexpensive Tshirts sold in California to young people
3 • select S.city, I.color, C.cName, F.price
4       from Sales F, Store S, Item I, Customer C
5       where F.storeID = S.storeID and F.itemID = I.itemID
6       and F.custID = C.custID and S.state = 'CA'
7       and I.category = 'Tshirt' and C.age < 22 and F.price < 25;
8
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

city	color	cName	price
Palo Alto	blue	Amy	10
Palo Alto	blue	Bob	15
Belmont	red	Bob	20
Belmont	red	Bob	15
Belmont	red	Bob	10

B:

```
9   #b Total sales by store ID and customer name
10 • select storeID, cName, sum(price)
11      from Sales s, Customer c
12      where s.custID=c.custID
13      group by storeID, cName;
```

Result Grid | Filter Rows: | Export: | Wr

storeID	cName	sum(price)
store1	Amy	145
store1	Bob	95
store1	Craig	85
store2	Bob	215
store2	Craig	145
store2	Doris	165
store2	Amy	280
store3	Bob	330
store3	Craig	295
store4	Amy	65
store4	Bob	70
store4	Craig	90
store5	Doris	170
store5	Amy	180
store5	Bob	225
store6	Craig	270
store6	Doris	525

C:

```
15    #c Drill-down Total sales by store ID, category, and customer
16 •  select storeID, i.category, cName, sum(price)
17        from Sales s, Customer c, Item i
18        where s.custID=c.custID and s.itemID=i.itemID
19        group by storeID, i.category, cName;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

storeID	category	cName	sum(price)
store1	Tshirt	Amy	115
store1	Tshirt	Bob	15
store1	Tshirt	Craig	45
store1	Jacket	Amy	30
store1	Jacket	Bob	80
store1	Jacket	Craig	40
store2	Tshirt	Bob	125
store2	Jacket	Craig	145
store2	Jacket	Doris	165
store2	Jacket	Amy	280
store2	Jacket	Bob	90
store3	Jacket	Bob	165
store3	Jacket	Craig	145
store3	Tshirt	Craig	150
store3	Tshirt	Bob	165
store4	Tshirt	Amy	65
store4	Tshirt	Bob	70
store4	Jacket	Craig	90
store5	Jacket	Doris	170
store5	Jacket	Amy	180
store5	Jacket	Bob	225
store6	Jacket	Craig	270
store6	Jacket	Doris	360
store6	Tshirt	Doris	165

D:

```
21    #d "Slice" Total sales by store ID, category, and customer for "store6" only
22 •  select s.storeID, i.category, cName, sum(price)
23        from Sales s, Customer c, Item i, Store t
24        where s.custID=c.custID and s.itemID=i.itemID
25        and s.storeID=t.storeID and t.storeId ='store6'
26        group by storeID, i.category, cName;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

storeID	category	cName	sum(price)
store6	Jacket	Craig	270
store6	Jacket	Doris	360
store6	Tshirt	Doris	165

E:

```
28    #e "Dice" Total sales by store ID, category, and customer for "store6" and "Jacket" only
29 •  select s.storeID, i.category, cName, sum(price)
30        from Sales s, Customer c, Item i, Store t
31        where s.custID=c.custID and s.itemID=i.itemID
32        and s.storeID=t.storeID and t.storeId ='store6' and i.category='Jacket'
33        group by storeID, i.category, cName;
34
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

storeID	category	cName	sum(price)
store6	Jacket	Craig	270
store6	Jacket	Doris	360

F:

```
35      #f Roll-up Total sales by category
36 •    select i.category, sum(price)
37          from Sales s, Customer c, Item i, Store t
38          where s.custID=c.custID and s.itemID=i.itemID and s.storeID=t.storeID
39          group by i.category;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	sum(price)
Tshirt	915
Jacket	2435

G:

```
41      #g Total sales by state, county, city
42 •    select state, county, city, sum(price)
43          from Sales F, Store S
44          where F.storeID = S.storeID
45          group by state, county, city;
46
```

Result Grid | Filter Rows: | Export:

state	county	city	sum(price)
CA	Santa Clara	Palo Alto	325
CA	Santa Clara	Mountain View	805
CA	San Mateo	Menlo Park	625
CA	San Mateo	Belmont	225
WA	King	Seattle	575
WA	King	Redmond	795

H:

```
47      #h Total sales by state, county, city with rollup
48 •    select state, county, city, sum(price)
49          from Sales F, Store S
50          where F.storeID = S.storeID
51          group by state, county, city with rollup;
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

state	county	city	sum(price)
CA	San Mateo	Belmont	225
CA	San Mateo	Menlo Park	625
CA	San Mateo	NULL	850
CA	Santa Clara	Mountain View	805
CA	Santa Clara	Palo Alto	325
CA	Santa Clara	NULL	1130
CA	NULL	NULL	1980
WA	King	Redmond	795
WA	King	Seattle	575
WA	King	NULL	1370
WA	NULL	NULL	1370
NULL	NULL	NULL	3350

3.)
A:

```
55    #a List total sales by state of store and age of customer
56    SELECT state, age, sum(price) FROM Sales F, Store S, Customer C
57    WHERE F.storeID = S.storeID AND F.custID = C.custID
58    GROUP BY state, age;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	age	sum(price)
CA	20	490
CA	21	710
CA	25	615
CA	22	165
WA	22	695
WA	20	180
WA	21	225
WA	25	270

B:

```
60    #b Drill down to items by item color (on the basis of the previous query)
61    SELECT state, age, I.color, sum(price)
62    FROM Sales F, Store S, Customer C, Item I
63    WHERE F.storeID = S.storeID AND F.custID = C.custID
64    AND F.itemID = I.itemID
65    GROUP BY state, age, I.color;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	age	color	sum(price)
CA	20	blue	320
CA	21	blue	415
CA	25	blue	465
CA	20	red	170
CA	21	red	295
CA	22	blue	165
CA	25	red	150
WA	22	blue	405
WA	20	blue	180
WA	21	blue	70
WA	21	red	155
WA	25	red	175
WA	25	blue	95
WA	22	red	290

C:

```
67    #c Use "with rollup" with the previous query
68    # (for the rollup rows the output must match the result of query a)
69    SELECT state, age, I.color, sum(price)
70    FROM Sales F, Store S, Customer C, Item I
71    WHERE F.storeID = S.storeID AND F.custID = C.custID
72    AND F.itemID = I.itemID
73    GROUP BY state, age, I.color WITH ROLLUP;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	age	color	sum(price)
CA	20	blue	320
CA	20	red	170
CA	20	NULL	490
CA	21	blue	415
CA	21	red	295
CA	21	NULL	710
CA	22	blue	165
CA	22	NULL	165
CA	25	blue	465
CA	25	red	150
CA	25	NULL	615
CA	NULL	NULL	1980
WA	20	blue	180
WA	20	NULL	180
WA	21	blue	70
WA	21	red	155
WA	21	NULL	225
WA	22	blue	405
WA	22	red	290
WA	22	NULL	695
WA	25	blue	95
WA	25	red	175
WA	25	NULL	270
WA	NULL	NULL	1370
NULL	NULL	NULL	3350

D:

```
73    #d Slice by listing only items with blue color (on the basis of query b)
74    SELECT state, age, I.color, sum(price)
75    FROM Sales F, Store S, Customer C, Item I
76    WHERE F.storeID = S.storeID AND F.custID = C.custID
77    AND F.itemID = I.itemID AND I.color = 'blue'
78    GROUP BY state, age, I.color;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	age	color	sum(price)
CA	20	blue	320
CA	21	blue	415
CA	25	blue	465
CA	22	blue	165
WA	22	blue	405
WA	20	blue	180
WA	21	blue	70
WA	25	blue	95

E:

```
80    #e Rollup total sales by customer age and item color (on the basis of query b)
81    # [the remaining dimensions are customer age and item color]
82    SELECT age, I.color, sum(price)
83    FROM Sales F, Store S, Customer C, Item I
84    WHERE F.storeID = S.storeID AND F.custID = C.custID
85    AND F.itemID = I.itemID
86    GROUP BY age, I.color;
87
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

age	color	sum(price)
20	blue	500
21	blue	485
25	blue	560
20	red	170
21	red	450
22	blue	570
25	red	325
22	red	290